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EUROPEAN OBSERVATIONS ON AMERICAN COTTON PACKAGING. Department of Agriculture

An address by S. H. McCrory, Chief, Bureau of Agricultural Engineering, United States Department of Agriculture, delivered before the Twenty-Eighth Annual Convention of the Texas Cotton Association, Houston, Texas, Friday morning, March 31, 1939.

Last fall I had the opportunity, in connection with the work of the Department of Agriculture to visit England, Ireland, Holland, and France. Through the aid of Mr. Fred Taylor, Cotton Marketing Specialist, of the Bureau of Agricultural Economics, who is the Department's agricultural commissioner at Manchester, England, and with the courteous assistance of the International Federation of Cotton Spinners, I found it possible to observe the condition of cotton bales from various countries as they came from the ship to the docks, in warehouses, and in the store rooms and opening rooms of cotton mills in the Manchester area in England, and on the docks and in the warehouses at LeHavre, France. Because I have had something to do with research on the ginning of seed cotton, I was anxious to see for myself in what condition American cotton bales reached foreign markets.

It has always been my belief that in the United States we produced a superior quality of cotton and I am pleased to say that my observations in Europe did not change this opinion. In the United States we are undoubtedly producing a high quality cotton, but from what I saw of our bales as they reached England and France, I am convinced American cotton deserves better packaging and more careful handling than it is now receiving. In Manchester I saw the condition of our cotton and foreign cottons as they were unloaded from the steamers at the dock and in large wharfside warehouses in which some 25,000 bales of American cotton was stored. I also saw bales from several countries in the opening rooms and warehouses of a number of cotton mills in the Manchester area. In France, through the courtesy of the French Cotton Spinners' Organization, I examined cotton bales from various countries as they reached the large cotton warehouse at LeHavre.

The American cotton bale one sees abroad is, I regret to say, a poorly packaged bale when compared to foreign bales with which it competes in the markets of England and France.

The bale of American cotton is, as you know, only partly covered on the sides. The bagging is frequently not put on smoothly and it is cut, torn, ragged and sometimes rotten. Sample cuts are numerous. The cotton that is exposed on the sides and in the cuts is frequently dirty or stained. I saw bales of American cotton which had apparently been carried in cars or cargo space used previously for coal or ore. I saw some stained with iron rust and some that were just plain dirty. The

1870. 10. 20. -  
The weather has been very bad all day. It has rained hard at intervals, and the wind has been strong. The water has risen in the river, and the banks are now high above the ground. The trees are swaying in the wind, and the leaves are falling from the branches. The sky is overcast, and the sun is hidden behind clouds. The air is cool and damp, and the ground is wet. The birds are silent, and the insects are few. The world seems desolate and dead.

1870. 10. 21. -  
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practice is to scrape dirty bales, and this scraping must be paid for by a deduction of at least two pounds to the bale. The American cotton growers stand this loss - not the buyer.

Bales of foreign cotton - I mean the cotton other than American - were almost without exception completely covered, and usually no sample cuts are seen in these bales as they are unloaded from the ships. Most of the foreign bales I saw unloaded in the transit warehouse in Manchester were sampled there. The same procedure was followed at LeHavre. The bagging on foreign bales was usually lighter than that on American bales but seemed to serve its purpose very satisfactorily although it frequently showed small breaks where the bands had chafed it. The Brazilian bales I saw were very well covered as were the Egyptian bales. Bales from India were usually well covered, but I saw some lots that I was told were in arbitration which were rather poor bales covered apparently with re-used bagging in poor condition. As I observed the condition of the bagging on bales, it appeared that the light jute bagging - approximately 10 ounces per yard or less - was proving quite satisfactory.

The English and Americans seem to follow about the same practice when they make a sample cut in that they leave it open. The French follow a practice that looks thriftier. When they make a sample cut in a bale they immediately sew a patch over the cut. Anyway, this was the practice at the LeHavre warehouse. As a consequence American cotton bales on the dock at LeHavre look very much more workmanlike than they do in the Manchester area.

While Mr. Taylor and I went about the mills a number of comments were made to us by the managers of various mills in regard to minor defects which it did not seem would be difficult to correct. I am passing these on for your information.

Sisal twine is an important objection. Considerable difficulty occurs at intervals with sisal twine and jute fibers which have become mixed with the cotton. These fibers cut the soft leather on the spindles and make it necessary to replace the leather if satisfactory spinning is to be done. This throws the mill out of gear and causes delay. The sisal fibers get in because bale patches are sewed on the bagging with sisal twine. The jute fibers come from frayed patches and cuts in the bagging. In the opening room of one mill my attention was called to a lot of American cotton with which they were having this difficulty. Examination showed that old bagging was intermingled with the surface cotton of most of the bales. In compressing one bale sisal twine and bagging had been mixed at least 8-inches deep in the bale. Several mill managers mentioned this difficulty. If the use of sisal twine could be eliminated, I think this criticism would be largely stopped.



Air-cutting was a cause of complaint at a number of the mills visited. One mill manager had saved a lot of bale tags from the bales, he said, were air-cut. These were mostly from Texas compresses. On examining some bales he had set aside on account of air-cuts, we found that instead of air or compress cuts they were deep sample cuts where two parallel cuts from 4 to 8 inches apart had been made nearly across the bale and very deep. The mill people did not understand why it was necessary to make this kind of a cut in sampling the bale and they think it injures the quality of the cotton.

On account of complaints in regard to air and compress cuts, I examined as many bales as I could in the opening rooms of the mill. There were many deep sample cuts but actually I saw only two air-cut bales in England and one in Franco. One of these bales was from a Mississippi compress, one from a Texas compress - the origin of the third could not be determined. I was told of other air-cut bales but did not get to see them.

Several spinners complained because in marking some bales black ink was used instead of purple and because too much ink of either kind was used. They claim that the black ink is much harder to work in the spinning room in the mill than purple. Some American bales that I saw were marked rather heavily and I believe that a way should be found to prevent too heavy a marking. Also, if our customers prefer purple ink to black it seems to me only good business to use the kind they prefer.

Metal in cotton bales anyone would consider a solid cause for kicking. From the manager of one mill who had called upon me in Washington in the spring of 1938, I had received a bitter complaint about iron in American cotton. From his description I could not identify the source of the metal, but I had asked him to send me some of the iron which he complained about. On reaching England I wrote asking permission to visit the mill and received a cordial invitation to do so. On arriving at the mill I learned that since his return he had been having the opening room force save all of the metal they found and every few days the findings were assembled and placed in an envelope on which the date was recorded. An examination of this metal showed that it was mostly buckles from bale bands which had apparently been broken at the compress. Most of the cotton is very dry when it reaches the opening room and when the metal beaters on the opening machines strike the metal in the cotton sparks are caused which under conditions prevailing the opening rooms may cause fires. This particular mill reported they had had two serious fires which had shut the opening room down for periods of from four to five days each time, and some five or six incipient fires which were extinguished before they became serious. This mill is said to spin about 50,000 bales of cotton a year and you can appreciate that a fire which causes a shut-down in the opening room for four or five days is a serious matter. The practice of breaking buckles at the compress should be stopped and the bands should be cut so there will be no loose buckles to get mixed with the cotton. This apparently is already the practice at many of the compresses.



As I examined the various storages in England, I could not help but be disappointed at the condition in which our cotton reaches the mills. It seemed to me that the quality of the product we are exporting warrants better and more careful packaging. An attractive package has been found a good investment in other kinds of business and I can not escape the conviction it would be to the advantage of American cotton growers and American cotton exporters if our cotton was put up in a better package than it now gets. Some difficulties such as metal in bales could, I believe, be quite readily corrected by changing the method of operation at the compress. The Bureaus of Agricultural Engineering and Agricultural Economics have been interested in all problems involved in getting a better package for cotton and recently we have been given a Bankhead-Jones grant for the purpose of studying these problems. The work on the engineering and technological phases is just being started at the Cotton Ginning Laboratories at Stoneville, Miss. The economic and marketing phases will be handled from Washington by the Division of Cotton Marketing.

I know that many people in the cotton industry have been interested in the problem of recompression of bales and that there is difference of opinion on the amount of damage that may be traced to this process, but up to the present there has been no objective research to get at the facts. Now we have a chance to get at them. Not only do we hope to get at the causes of some of the complaints, but it is reasonable to suppose we may be able to develop means of eliminating some of the defects. Apparently some countries are fairly successful in putting out high-density bales at gins, so we have reason to feel optimistic about our ability to make some improvement in our methods here.

Recently there has been some discussion about high density compression at the gin. Naturally, a plan that will cause as many changes as this will on the farm and in the cotton trade should not be adopted without a comprehensive investigation. The idea is not new such methods having been considered in our cotton belt for a third of a century, and for a considerable period preceding 1920 the literature on cotton marketing contained a large number of articles on the subject. Thirty years ago as many as eight companies were making and boosting high-density presses for gins. Some of them were designed for so-called "square" bales and some for "round" bales. During the last year of the World War our War Industries Board recommended to the Railroad Administration that the production of high-density bales at gins could be encouraged by better carload rates on such bales. But with the end of the war the movement for this change stopped. Such a change would have a very profound influence on both farm practices and cotton trade practices and should be entered into - if at all - only after careful investigation.

Apparently there are some very real obstacles in the way of bale improvements which to the casual observer would appear to be a practical means of stimulating the sale of our cotton. We expect that this new research venture will bring them to light and give us information



on how to eliminate defects in our present products. Not only do we hope to find feasible ways to make a bale that will be the equal of any produced elsewhere but one in which the cotton won't be damaged in the process.

I must say that since looking over our cotton in foreign ports and mills I look at this research project just starting with considerable enjoyment and optimism. It has a solid look about it that appeals to me.

To be sure, research - successful research - does not finally solve our problem. People in the cotton industry - ginners, machinery manufacturers, farmers and exporters - must be stimulated to adopt improvements and by united effort American cotton can become the impressive mountain in the trade that it should be by virtue of our natural advantages and the work we have done. The proposed cotton export program of the Department of Agriculture for the fiscal year 1939 should give us a demonstration of some of the possibilities of united efforts to concentrate the good results of improvements in our cotton and in our methods of producing and handling it. Under this program cotton will be selected from one-variety areas, will be ginned as well as possible in selected gins and will be carefully classed by classers who will see to it that the lots will be as uniform as possible. It should demonstrate to that hard-boiled buyer, the foreign cotton spinner, that the chances are he is overlooking something good in our developing one-variety areas. In the past these buyers have found that lots might be of even running grade and staple but not uniform because of many varieties and because of having been produced under different growing conditions. They know how much variety and growing conditions influence spinning value and in this country we know it too. When we have convinced them we have done something to solve the problem we can expect a favorable reaction because we have good cotton.

If we can back up such work as our research and the cotton export program and those good practices that everybody in the cotton industry knows is horse sense in any business, with united effort to make our cotton recognized as not only good but a good buy - then we are going to find more cotton users making paths to our southern door.

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